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(54) HOUSING
(71) AMARAY INTERNATIONAL, LTD.
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(72) STEFAN PIJANOWSKI, PETER THOMPSON AND ADRIAN DARTNALL
(74) DM
(57) Claim

1. A housing comprising at least two parts, one being a molded rigid frame member and the other an initially flat flexible sheet material member adapted to be received and retained in the frame member.

8. A housing comprising spaced apart front and rear walls and side walls defining a receiving space for the container contents, characterized by the feature that at least one molded frame means forms at least one side wall or side wall portion of the container and defines a wall space in which a front wall and/or a rear wall of the container is locatable, and at least one sheet of semi-flexible or flexible material forms the front wall and/or rear wall of the container.

9. A housing comprising spaced apart front and rear walls and side walls defining a receiving space for the container contents, characterized by the feature that one or more molded, peripheral frame means forms a side wall or walls or part side walls of the container and defines spaces in which

.../2

a front wall and a rear wall of the container are locatable when received by receiving means of the frame means; and that one or more initially flat sheet of flexible material is adapted to form the front and rear walls of the container; each said frame means having two spaced or at least one receiving means to receive portions or a portion of said sheet forming the front and rear walls.

COMMONWEALTH of AUSTRALIA

PATENTS ACT 1952

APPLICATION FOR A STANDARD PATENT

£
We AMARAY INTERNATIONAL, LTD.,
of Oak House,
58 Oak End Way,
Gerrards Cross,
Bucks SL9 8BR,
ENGLAND

hereby apply for the grant of a Standard Patent for an invention entitled:
"HOUSING"

which is described in the accompanying ~~XXXXXXXXXX~~ complete specification.

Details of basic application(s):—

<u>Number</u>	<u>Convention Country</u>	<u>Date</u>
8602043	UNITED KINGDOM	28th January 1986

The address for service is care of DAVIES & COLLISON, Patent Attorneys, of 1 Little Collins Street, Melbourne, in the State of Victoria, Commonwealth of Australia.

Dated this 28th day of January 19 87

To: THE COMMISSIONER OF PATENTS

H. M. Rimington

(a member of the firm of DAVIES & COLLISON for and on behalf of the Applicant).

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952

DECLARATION IN SUPPORT OF CONVENTION OR NON-CONVENTION APPLICATION FOR A PATENT

Insert title of invention.

In support of the Application made for a patent for an invention
entitled: "Housing"

Insert full name(s) and address(es)
of Declarant(s) being the appli-
cant(s) or person(s) authorized to
sign on behalf of an applicant
company.

I ~~am~~ **DETCK HENRY THOMPSON. MAN. DIRECTOR.**
We **Amaray International, Ltd.**
Oak House
58 Oak End Way
Gerrards Cross
Bucks SL9 8BR, ENGLAND

~~Cross out~~ whichever of paragraphs
1(a) or 1(b) does not apply.

do solemnly and sincerely declare as follows:-

1(a) relates to application made
by individual(s).
1(b) relates to application made
by company; insert name of
applicant company.

1. (a) ~~I am the actual inventor of the invention~~
We are ~~the actual inventors of the invention~~
or (b) I am authorized by

~~Cross out~~ whichever of paragraphs
2(a) or 2(b) does not apply.

the applicant..... for the patent to make this declaration on its behalf.

2(a) relates to application made
by inventor(s)
2(b) relates to application made
by company(s) or person(s) who
are not inventor(s); insert full
name(s) and address(es) of inven-
tors.

2. (a) ~~I am the actual inventor of the invention~~
We are ~~the actual inventors of the invention~~

or (b) Stefan Pijanowski, Peter Thompson and Adrian
Dartnall of 24 Clifton Drive, Oundle, Peterborough,
Northhamptshire PE8 4OV, England; Greenbanks, New
Road, Bourne End, Buckinghamshire, England; and
34 Deverdun, Belton, Loughborough, Leicestershire,
England, respectively

~~I am~~ the actual inventor. ~~S~~..... of the invention and the facts upon which the applicant.....
is entitled to make the application are as follows:-

assignment has been made to Amaray International,
Ltd. on 17th March 1986. ~~It~~
said assignment included worldwide rights

State manner in which appli-
cant(s) derive title from inven-
tor(s)

Cross out paragraphs 3 and 4
for non-convention applications.
For convention applications
insert basic country(s) followed
by date(s) and basic applicant(s).

3. The basic application..... as defined by Section 141 of the Act ~~was~~ made
in United Kingdom on the 28 of January, 1986
by Amaray International, Ltd.
in on the
by
in on the
by

4 The basic application..... referred to in paragraph 3 of this Declaration ~~was~~
the first application..... made in a Convention country in respect of the invention the subject
of the application

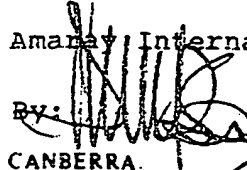
Insert place and date of signature.

Declared at **Gerrards Cross** this **17th** day of **March 1986**

Signature of Declarant(s) (no
attestation required).

Amaray International, Ltd.

Note: Initial all alterations.

BY:  **P. THOMPSON**
MAN. DIRECTOR
AMARAY INT. LTD

DAVIES & COLLISON. MELBOURNE and CANBERRA.

COMMONWEALTH OF AUSTRALIA

PATENT ACT 1952

COMPLETE SPECIFICATION

(Original)

FOR OFFICE USE

Class Int. Class

Application Number:
Lodged:

Complete Specification Lodged:
Accepted:
Published:

Priority:

Related Art:

Name of Applicant: AMARAY INTERNATIONAL, LTD.

Address of Applicant: Oak House,
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Actual Inventor(s): Stefan PIJANOWSKI
Peter THOMPSON
Adrian DARTNALL

Address for Service: DAVIES & COLLISON, Patent Attorneys,
1 Little Collins Street, Melbourne, 3000.

Complete Specification for the invention entitled:
"HOUSING"

The following statement is a full description of this invention,
including the best method of performing it known to us :-

Description

HOUSING

Technical Field

The present invention relates to housings or containers of the type primarily suitable for video cassettes and other forms of magnetic recording media such as audio and data cassettes. However, such housings or containers are also suitable for other purposes, for example, containers for cosmetics, food or other dry goods.

Disclosure of Invention

An object of the present invention is to provide a housing or container which can be manufactured economically and wherein at least one wall can be readily printed or decorated to indicate the contents.

According to the present invention a housing comprises at least two parts, one being a molded rigid frame member and the other an initially flat flexible sheet material member adapted to be received and retained in the frame member. The frame is preferably constructed in two parts to facilitate insertion of the sheet material member thereinto. In designs in which, prior to insertion in the frame parts, the sheet material is hinged or bent at a sharp angle it may be scored or otherwise adapted to facilitate such.

Both inner and outer surfaces of the sheet member can be pre-printed or decorated to describe the contents.

Preferably the frame member comprises moldings of rigid thermoplastic or thermosetting plastics material such as polypropylene or polystyrene. The flexible sheet material insert may be made of cardboard or any suitable synthetic sheet material suitable to receive printing or self decoration.

Where two moldings are used in each assembly, these can advantageously be similar and twin closure slips may be used to provide a symmetrical construction.

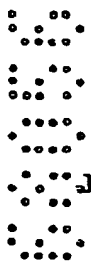
5 The final shape of the housing is only dictated by its eventual use and the fact that the sheet material member must be capable of being inserted and held in the frame.

Also according to the present invention there is provided a housing or container comprising spaced apart front and rear walls and side walls defining a receiving space for the container contents, characterized by the feature that at least one molded frame means forms at least one side wall or side wall portion of the container and defines a wall space in which a front wall and/or a rear wall of the container are/is locatable, and at least one sheet of semi-flexible or flexible material forms the front wall and/or rear wall of the container.

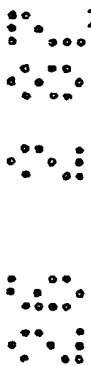
Where a single frame means is provided such may comprise a frame member having spaced apart receiving means for the front and rear wall portions of flexible sheet such that a space is defined between said portions in which the container contents may be received. In such arrangement, the initially flat sheet material will be folded over or otherwise bent over or formed so as to enable the front and rear wall portions to be located in the receiving means of the frame member which may, for example, comprise, respectively, a rebate on a front edge of the frame with releasable retaining means for the front wall portion of the flexible sheet and a channel track or like retaining means for the rear wall portion of the flexible sheet. In this arrangement, the front-wall portion of the flexible sheet would form the hinged front flap and access means to the container.

In a further arrangement according to the invention there is provided a housing or container comprising spaced apart front and rear walls and side walls defining a receiving space for the container contents, characterized

by the feature that one or more molded, peripheral frame means form a side wall or side walls or part side walls of the container and defines spaces in which a front wall and a rear wall of the container are locatable when received by the receiving means of the frame means; and that one or more initially flat sheet of flexible material is adapted to form the front and rear walls of the container; each said frame means having two spaced or at least one receiving means to receive a portion or portions of said sheet forming the front and rear walls.



In a more specific and preferred embodiment of the invention a housing for use in the assembly of a container having front and rear walls and side walls defining the receiving space of the container with the front wall being displaceable relative to the rear wall, comprises two rectangular, identical molded frame members which, when disposed one inverted relative to the other and rotated through 180° are releasably interengageable by means of co-operable interengageable catch means, said frame members each defining a central space for receiving wall means provided by sheet material retainably received in a channel or support means provided in an inner peripheral region of the frame members, and wherein the catch means include a projecting portion and a recessed portion and are molded with the frame members and asymmetrically disposed on either side of a central axis so as to enable interengagement when the two frame members are brought together in their operative disposition.



Such frame members are to be assembled with the sheet material which forms the front and rear walls and the thus assembled container is characterized in that a single sheet of initially flat flexible material forms the front and rear walls after being folded or bent in a central region which forms the flexible hinge means (spine) joining the two frame members; in that said sheet has recesses and/or apertures in the edges and/or edge regions for engagement by resilient or flexible projections formed with the

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frame members and projecting at least into said channel or support means region so as to engage said sheet. It will be appreciated that in this preferred embodiment considerable savings in material assembly stages are achieved and, importantly, it is possible for the front wall to be readily printed or decorated prior to assembly and for the outer and inner surfaces to be printed or decorated and such considerations may also apply to the rear wall. The flexible sheet material may be preprinted as a run of considerable length and have cut outs and apertures formed and be separated into individual inserts for two frame members.

Brief Description of the Drawings

The invention will now be described further, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is an exploded view of two frame members and a folded sheet material part prior to insertion thereinto;

Figure 2 is a detail of a corner of the frame member shown in Figure 1; and

Figure 3 is a detail of a barb on the frame member.

Best Mode for Carrying Out the Invention

In the drawings a frame comprises two identical parts 11, 11'. Each frame part 11, 11' has an upstanding wall 12 comprised of side portions 12' and 12'' which when juxtaposed against the corresponding wall of the other part (11', 11) form the side walls of the container. Each frame part 11, 11' has an outer rim 13 at right angles to three edges of the wall 12 and an inner rim 14 spaced from the rim 13 around all four edges of the wall 12. In this way a groove 15 is formed between rim 12 and rim 14. A portion 14' of the rim 14 extends between the free ends of wall 12 to provide an interconnection and rigidity for the struc-

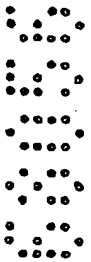
ture and to provide a support and fold surface for sheet 23 in the spine or hinge region. A snap lock 16 is offset from the central axis of the frame 11 and molded therewith. A corresponding groove 17 is offset to the other side of the central axis adapted to co-operate with the snap lock 16 to form catch means. A projection or boss 18 is provided on one edge of the wall 12 and a corresponding groove 19 is provided on a diametrically opposite portion of the wall. When the frame is closed, each boss 18 is inserted in its adjacent groove 19 thereby preventing relative movement of the two parts of the frame relative to each other. Three preferably integrally formed barbs 20 are provided, one in each outer corner and one in the center of the inner surface of the outer rim 13. The inner rim 14 is correspondingly apertured at 21 to receive the top of each barb.

Two spaced apart ridges 22 are provided on the outer surface of each side wall of the frame 11 which allows the assembled housing to stand.

A flexible sheet material insert 23 is grooved at 24 and apertured at 25 to co-operate with and be retained by the barbs 20 or like retention means of the frame members 11. Further grooves 26 are provided to enable the insert 23 to seat properly against the inside of the grooves 17. Parallel score lines 27 are made in the insert 23 so that when the insert is subsequently folded to form the inter-connection and flexible hinge means for the frame parts 11, 11', the housing will retain its shape. The insert 23 is fed into the grooves 15 of the frame members 11 when it is flat and the housing can thereafter be correctly folded in two due to the parallel scorings 27.

Various modifications and variations may be effected without departing from the scope of the invention as defined in the foregoing introductory and specific description and the appended claims. Each frame member may be substantially U-shaped or three-sided to form a right-angled channel-like outline when viewed in plan. Further-

more, and for example with reference to video cassette boxes, a frame member forming the front portion, and preferably with a frame member also forming the rear portion of the box, may be integrally molded and the front and rear portions interconnected by a hinge means with a flexible sheet being insertable into receiving means of the front frame member to form the front wall and preferably with a portion of said same flexible sheet also being insertable into receiving means of the rear frame member if provided in place of a normal known rear box-portion.



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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS: -

1. A housing comprising at least two parts, one being a molded rigid frame member and the other an initially flat flexible sheet material member adapted to be received and retained in the frame member.

2. A housing as claimed in claim 1, in which the frame is constructed in two parts.

3. A housing as claimed in claim 1, in which the sheet material is scored to enable it to be hinged or bent at a sharp angle.

4. A housing as claimed in claim 1, in which the inner and/or the outer surfaces of the sheet member are printed or decorated.

5. A housing as claimed in claim 1, in which the frame member comprises moldings of rigid thermoplastic or thermosetting plastics material such as polypropylene or polystyrene.

6. A housing as claimed in claim 1, in which the flexible sheet material member insertable into the frame member, is cardboard or any suitable sheet material adapted or capable of receiving printing or self-decoration.

7. A housing as claimed in claim 1, in which the assembly comprises two similar moldings having twin closure clips to provide a symmetrical construction.

8. A housing comprising spaced apart front and rear walls and side walls defining a receiving space for the container contents, characterized by the feature that at least one molded frame means forms at least one side wall or side

wall portion of the container and defines a wall space in which a front wall and/or a rear wall of the container is locatable, and at least one sheet of semi-flexible or flexible material forms the front wall and/or rear wall of the container.

9. A housing comprising spaced apart front and rear walls and side walls defining a receiving space for the container contents, characterized by the feature that one or more molded, peripheral frame means forms a side wall or walls or part side walls of the container and defines spaces in which a front wall and a rear wall of the container are locatable when received by receiving means of the frame means; and that one or more initially flat sheet of flexible material is adapted to form the front and rear walls of the container; each said frame means having two spaced or at least one receiving means to receive portions or a portion of said sheet forming the front and rear walls.

10. A housing as claimed in claim 9, characterized in that two frame members are provided as the frame means with each frame member having receiving means in the form of grooves or channel means with sheet engaging means for retainably receiving one of said flexible sheets or a portion of a flexible sheet which has another portion received by the other frame member.

11. A housing as claimed in claim 10, characterized in that the two frame members are identical and invertably disposed rotated through 180° relative to each other and are inter-connected at one side by hinge means and at another side by catch means to enable the frame members to be releasably inter-engageable.

12. A housing as claimed in claim 11, characterized in that a single flexible sheet forms the front and rear walls and a portion of the flexible sheet forms hinge means between the front and rear walls.

13. A housing for use in the assembly of a container having front and rear walls and side walls defining the receiving space of the container with the front wall being displaceable relative to the rear wall, comprising two, three-sided, identical molded frame members which, when disposed one inverted relative to the other and rotated through 180°, are releasably inter-engageable by means of co-operable inter-engageable catch means, said frame members each defining a central space for receiving wall means provided by sheet material retainably received in a channel and support means provided in an inner peripheral region of the frame members, and wherein the catch means include a projecting portion and a recessed portion and are molded with the frame members and disposed on either side of a central axis so as to enable inter-engagement when the two frame members are brought together in their operative disposition.

14. A housing assembled from the frame members of claim 13 in combination with the sheet material which forms the front and rear walls characterized in that a single sheet of initially flat flexible material forms the front and rear walls after being folded in a central region which forms a flexible hinge means joining the two frame members, in that said sheet has in the channel means for engagement by resilient projections formed with the frame members and projecting at least into said channel means so as to engage said sheet.

15. A housing or container as claimed in claim 14, characterized in that the channel means are provided on at least two opposite lateral side portions of the inner periphery of each frame member which (lateral portions) extend from and regions of a lateral portion inter-connecting said opposite lateral side portions.

16. A housing substantially as hereinbefore described with reference to the drawings.

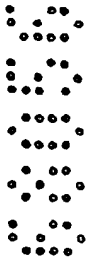
17. The steps or features disclosed herein or any combination thereof.

DATED this 25th day of FEBRUARY, 1987

AMARAY INTERNATIONAL, LTD.

By its Patent Attorneys

Davies & Collison



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FIG. 2

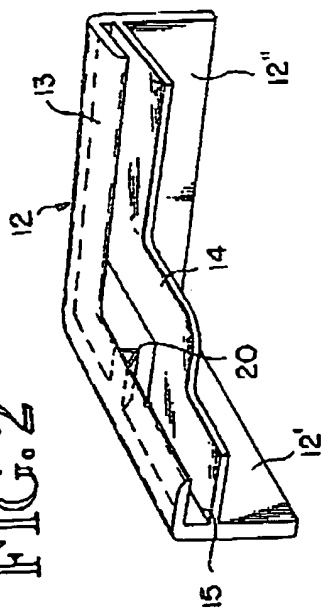


FIG. 3

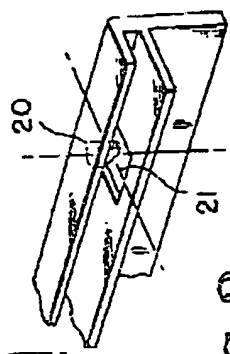


FIG. 1

